Equipment Manual

Monarch® Pathfinder® Ultra® Silver Printer



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TABLE OF CONTENTS

Introduction	1-1
Getting Started	1-1
Using this Manual	1-2
Using Batteries	2-1
Charging Batteries	2-1
Changing Batteries	2-2
Recycling Batteries	2-3
Safety Information	2-3
Using Supplies	3-1
Loading Supplies	3-1
Loading for Peel Mode	3-3
Loading for Non-Peel Mode	3-6
Removing Supplies	3-6
Basic Operations	4-1
Using the Keypad	4-1
Entering Data	4-2
Using the Display	4-3
Reading the Status Line	4-3
Scanning Bar Codes	4-4
Certification Note	4-6
Printing	4-7
Power Management	4-7
Attaching the Safety Strap	4-7
Helpful Reminders	4-8

Care and Maintenance	5-1
Cleaning	5-1
Printhead	5-2
Platen Roller	5-3
Pinch and Feed Rollers	5-4
Black Mark Sensor	5-5
Scanner Window	5-5
Scanner Flex Cable	5-6
Clearing Supply Jams	5-7
Storing the Printer	5-8
Troubleshooting	6-1
Error Codes	6-2
Glossary	6-1
Reference Information	6-1
Specifications	6-1
Accessories/Options	6-2

The Monarch® Pathfinder® Ultra® Silver 6032 $^{\text{TM}}$ printer scans bar codes and prints.



This manual describes how to use these printers.

Getting Started

To start using the printer, you must:

1. Charge the battery. See "Charging Batteries" in Chapter 2.

NOTE: Charge the battery as soon as you receive the printer, even if you do not use it right away.

- 2. Insert the charged battery in the printer. See "Changing Batteries" in Chapter 2.
- **3.** Attach the safety strap found in the documentation package. See "Attaching the Safety Strap" in Chapter 4.
- 4. Load supplies in the printer. See "Loading Supplies" in Chapter 3.
- **5.** Turn on the printer.

Using this Manual

Following is a summary of the contents of this manual.

	Chapter	Contents	
1	Introduction	Information you should know before using the printer.	
2	Using the Battery	Charging, changing, and using batteries safely.	
3	Using Supplies	Supply loading and removal.	
4	Basic Operations	Everyday printer usage.	
5	Care and Maintenance	Clearing supply jams and cleaning the printer.	
6	Troubleshooting	Common problems and their solutions.	
Α	Glossary	Printer terms and their definitions.	
В	Reference Information	Printer specifications and accessories/options.	

The printer's end user should read this manual. This person uses the printer to print and scan bar codes.

In addition to this manual, you also have a printed, quick-reference version of this manual. Other documentation is available on our Web site.

USING BATTERIES

The printer uses a 7.4V lithium-ion battery that is also used with several other Monarch® printers.

NOTE: The printer takes *only* this battery. **Do Not** substitute batteries from any other manufacturer.

This chapter describes how to charge batteries, change batteries, and use them safely.

Charging Batteries

You must charge the battery when you receive the printer, even if you do not use it right away.

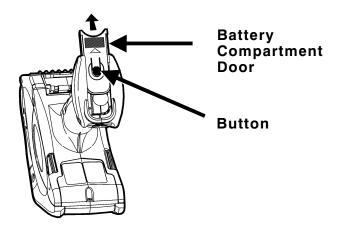
To charge batteries, use either the Monarch 9462[™] single-station or 9464[™] four-station battery chargers. See the documentation for those chargers for more information.

WARNING: The battery might explode if placed on a different charger.

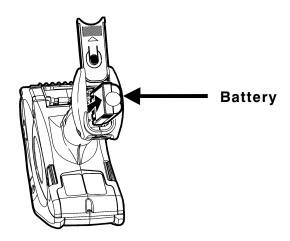
Changing Batteries

To change the battery:

1. Turn the printer over and press the button on the battery compartment door (at the bottom of the printer's handle) and slide it open (the door stays attached).



2. Turn the printer upright, holding your palm beneath the open battery compartment. Hit the printer on your hand and catch the battery as it slides out.



- 3. Insert a new battery into the compartment (non-ribbed end first).
- 4. Slide the compartment door shut. You will have to press the battery in slightly so the door fits over it. When the door shuts, you hear it click into place.

Recycling Batteries

The Rechargeable Battery Recycling Corporation (RBRC®) is a non-profit organization that promotes rechargeable battery recycling. The RBRC accepts Li-lon batteries. For more information about how to recycle batteries in your area, visit www.rbrc.org.

You can also contact your Paxar Service Representative about sending your batteries in for recycling.

Safety Information

- You must charge the battery before using it. For optimal battery life, charge the battery within three months of receipt.
- ♦ WARNING: The battery might explode if placed on a different charger.
- ◆ Take the battery out of the printer when storing the printer for a month or longer.
- ◆ The optimal battery storage temperature is 50°F 73°F (10°C 23°C), with a maximum of 104°F (40°C). The battery may lose its charge capacity permanently if stored at temperatures less than 32°F (0°C) or greater than 104°F (40°C). For longest life, the battery should be stored in a cool, dry place.
- The recommended temperature for charging is 68°F − 77°F (20°C − 25°C)

◆ Disposal Information – Do not throw in trash. Dispose to your local regulations. The Rechargeable Battery Recycling Corporation (RBRC®) is a non-profit organization created to promote recycling of rechargeable batteries. For more information about how to recycle batteries in your area, visit www.rbrc.org. Batteries can also be returned postage-paid to: ERC; 200 Monarch Lane Door #39; Miamisburg, OH 45342.

CAUTION

Do Not disassemble, short-circuit, heat above 80°C, or incinerate the battery. It may explode.

- ♦ The battery should be charged immediately for either long-term storage or after the battery has been exhausted from a printing session. Frequent charging will actually prolong battery life and has no negative effects such as memory issues.
- Do not let the battery come into contact with metal objects.
- Do not use a battery with a cracked case.
- Do not let the battery get wet.
- ◆ The operating temperature for the battery is the same as for the printer. See "Reference Information."
- ♦ It is normal for battery capacity to decrease up to 20% over the first 300 cycles of use.
- The battery should be charged immediately for either long-term storage or after the battery has been exhausted from a printing session. Frequent charging will actually prolong battery life and has no negative effects such as memory issues.
- The printer uses battery power even when the printer is not printing. Remove the printer's battery and place on a charger when the printer is not in use.
- Many factors affect your battery's performance, including the quantity of labels printed, intervals of batches printed, percentage of black per label, and power management.

USING SUPPLIES

The printer can use three types of supplies:

- Labels
- ♦ Tags
- Receipt Paper

There are two print modes. The way you load the supplies depends on the print mode you use.

- ◆ Peel mode removes the backing paper from the supplies as it prints the labels. This mode allows you to apply the label immediately. It is for labels only.
- ♦ Non-Peel mode does not remove the backing paper. It is for labels printed in a continuous strip, tags, and receipt paper.

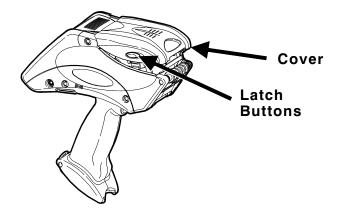
Loading Supplies

To load supplies:

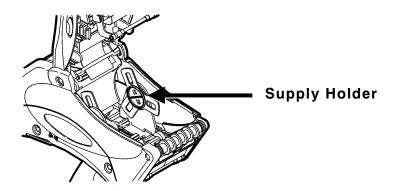
- 1. Turn on the printer.
- 2. If a date prompt appears, press the Load key. Otherwise, choose a format, and then press the Load key. You will see:

Load supplies

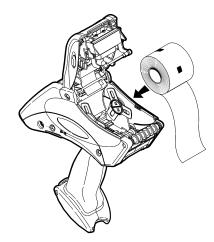
3. Press the latch buttons and open the supply cover.



4. Open the spring-loaded supply holder.



5. Place the supply roll in the supply holder so that the supply feeds from the bottom.



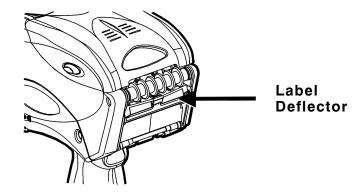
6. Load the supplies for the printing mode you want. See "Loading for Peel Mode" or "Loading for Non-Peel Mode."

Loading for Peel Mode

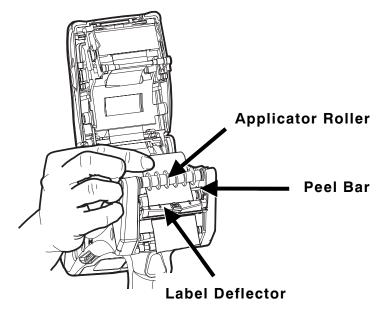
To load supplies for peel mode:

A. Peel and discard the first four inches of labels from the backing paper.

B. Hold the printer upright and gently press down on the label deflector. (It may be stiff.)



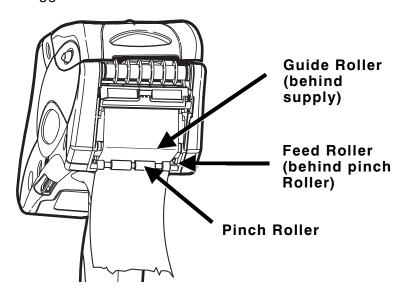
C. Feed all four inches of the backing paper **over** the peel bar and **under** the applicator roller and the label deflector.



- **D.** Push the label deflector up until it snaps into place.
- E. Partially close the cover to the first position.



- **F.** Pull the backing paper **over** the guide roller, down to the pinch and feed rollers.
- **G.** Hold the backing paper edge between the feed and pinch rollers, and press the trigger.

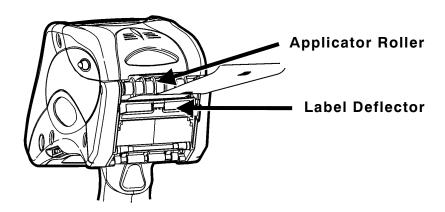


H. Close the cover and press ESC to exit.

Loading for Non-Peel Mode

To load supplies for non-peel mode:

A. Feed the supply under the applicator roller and over the label deflector.



- B. Close the cover.
- C. Press ESC to exit.

Removing Supplies

To remove supplies:

- 1. Peel mode only. Tear the backing paper just above the pinch roller.
- 2. Open the supply cover completely.
- **3.** Spread the supply holder tabs apart with one hand and remove the supply roll.
- **4.** Peel mode only. Carefully pull out the supply backing paper still in place between the pinch and feed rollers.

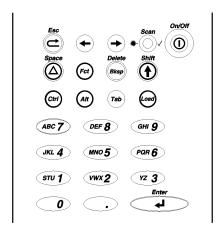
BASIC OPERATIONS



This chapter explains the printer's features and how to use them.

Using the Keypad

The printer keypad appears below.



Key(s)	Description
Enter	Accepts data or a menu selection.
Ctrl	For future use.
Alt	Displays a special character when you press the key and then enter a 3-digit number. The only character you cannot display is the cent sign (¢). Your System Administrator will tell you what number(s) to use.
Tab	For future use.
Load	Begins the supply-loading procedure.

Key(s)	Description		
Fct	Performs a specially-defined function when pressed with a single-digit number.		
Bksp	Moves the cursor one space to the left. Pressing Shift and Bksp together deletes all data on the current line.		
Shift	 Displays a letter shown on the face of a numeric key. See "Entering Letters" for more information. 		
	◆ Deletes all data on the current line when pressed with Bksp.		
Esc	Moves to the previous menu, or exits the current module or program.		
Arrows	Moves between items in a menu or characters in a line. Depending on the situation, the right arrow can act as a down arrow. The left and up arrows can also be the same.		
On/Off	Turns the printer on and off.		
Space	Enters a space character.		
Numeric/ Alphabetic	Displays a numeric digit or upper-case letter.		
. (Decimal point/period)	Displays a decimal point or period character.		

Entering Data

There are three data entry modes:

- ◆ Normal mode Default. Also called Numeric mode. Press the key to access what appears on the face of the key (except letters on the numeric keys— see Shift mode).
- ♦ **Shift mode** Also called Alpha mode. Press Shift to enter letters with number keys or with Bksp to delete the current line. S appears on the status line).
- ◆ Special Key mode Press the Alt or Fct key (with a number) to display a special character or perform a specially-defined function. A or F appears on the status line.

Entering Letters

To enter upper-case letters, press one of the numeric keys in Shift mode (S appears on the status line). For example, the letters "ABC" appear on the face of the 7 key.

- 1. Press Shift to enter Shift mode.
- To enter the letter A, press 7 once; to enter B, press 7 twice; to enter C, press 7 three times. If you press 7 four times, it loops around and displays A again.

NOTE: Press the keys fairly quickly. If you pause too long between key presses, the printer assumes you have completed, and the current letter is the one you want. Then, the cursor moves one space to the right.

Using the Display

The display has three lines: two data lines and one status line.

Reading the Status Line

The status line has the following indicators:

Indicator	Description
F	You have pressed the Fct key, and the printer is in Special Key mode. This mode remains in effect through the next key press. To return to Normal mode without entering a function, press the Fct key again.
Α	You have pressed the Alt key, and the printer is in Special Key mode. This mode remains in effect until you enter a 3-digit number. To return to Normal mode without entering a number, press the Alt key again.
С	For future use.
S	You have pressed the Shift key, and the printer is in Shift mode. This mode remains in effect until you press the Shift key again.

The printer is in Normal mode if no indicator is on the display.

Scanning Bar Codes

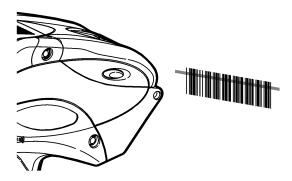
Your printer may have a built-in scanner.

When you scan depends on the way your printer is configured. It will most likely prompt you on the display to press a certain key (probably the trigger). When you press it, you activate the scanner.

To scan a bar code:

- 1. Attach the safety strap to your wrist.
- 2. Point the scanner at a slight angle approximately 4-8 inches from the bar code symbol.
- 3. Press the trigger or other key specified by your System Administrator.

CAUTION: Do Not stare into the beam.



The laser scan LED lights green after a successful scan. It lights amber after an unsuccessful scan. This light is at the upper right of the keypad, to the left of the On/Off key.

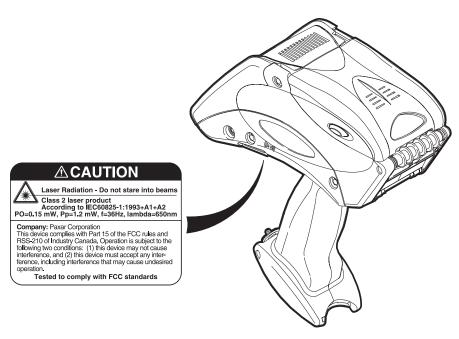
If the bar code does not scan:

- ♦ Change the scanner's angle slightly and try again.
- Clean the scanner window. See "Cleaning" in Chapter 5 for more information.
- ♦ Move the scanner 4 8 inches away from the bar code. Adjust this distance as needed to find the correct distance.
- ◆ Try scanning another bar code that you have scanned successfully. If that scan is successful, the scanning problem is with the bar code.
- ♦ Move to a more dimly lit area.
- Ensure there are no voids (streaks) in the bar code symbol.

If the scan is still unsuccessful, ask your System Administrator to perform a scanner test.

Certification Note

This product is certified to be a Class II laser product with the United States DHHS Center for Devices and Radiological Health. The scanner emits less than 1.3 milliwatt beam of laser light from the scanning window. Laser light in excess of Class I limits must be inside a protective cover. No maintenance is required to keep this product in compliance with IEC 825 and DHHS Regulation 21, Subchapter J. No controls are provided for operation or maintenance.



Printing

When and how you print depends on your printer's configuration. It may print

- ◆ after you press a certain key.
- automatically as soon as you press a key.
- automatically with no input from you.
- one or many labels at once.

Power Management

If the printer stays on, but you do not use it for a while, it goes into sleep mode to conserve power. A coffee cup appears on the display in sleep mode. The printer wakes up when you start using it again.

If it stays in sleep mode for a certain period of time (your System Administrator sets amount), it will turn itself completely off.

Attaching the Safety Strap

- 1. Turn the printer upside down, resting its top on the table.
- 2. Take the thin end of the safety strap, and push it through the loop at the bottom of the printer handle (near the battery compartment).



3. Push the thick end of the safety strap through the thin end's loop.

4. Pull the strap. It may be necessary to help the thin end's loop fit over the plastic piece in the middle of the strap.



5. Pull the strap tight.



Helpful Reminders

- ◆ Always start with a fully-charged battery.
- Attach the safety strap of the printer to your wrist before using the printer.
- Do not pound the printer when applying labels printed in peel mode.
- ◆ Switch to a fully-charged battery every time you load a new roll of supplies (doing so ensures optimum print quality).
- ◆ Turn the printer off when not using it.
- Operate and store the printer with the recommended temperature and humidity ranges. See Appendix B, "Reference Information," for more information.

4-8 Basic Operations

CARE AND MAINTENANCE

Caring for and properly maintaining your printer protects it and keeps it running smoothly. This chapter explains how to

- clean the printer.
- clear supply jams.
- store the printer.

Cleaning

It is important to keep the printer clean. There are five main areas that you must clean:

- Printhead
- ♦ Platen Roller
- Pinch and Feed Rollers
- Sensors
- Scanner Window
- Scanner Flex Cable

Do Not use sharp objects to clean the printer.

Printhead

Clean the printhead

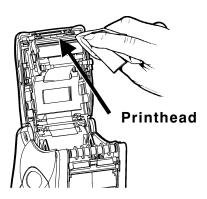
- after using 7-10 rolls of supplies.
- in extreme temperatures, humid conditions, or a dirty environment.
- when you see voids in the print.
- after a supply jam.

Do Not use silicone to clean or lubricate. **Do Not** use sharp objects to remove adhesive or label particles from the printhead area. **Do Not** touch the printhead with your fingers. These actions may damage the printhead and void your warranty.

To clean the printhead:

- 1. Turn off the printer.
- 2. Open the supply cover and remove the supply roll. See "Removing Supplies" in Chapter 3.
- **3.** Check the supply holder for adhesive buildup, and clean it, if necessary.
- **4.** Ground yourself by touching metal on something other than the printer. Grounding prevents electrostatic discharge, which may damage your printer.

5. Clean the printhead area of all adhesive and label particles using a Monarch Cleaning Pen (#114226) or a soft cloth moistened with isopropyl alcohol.



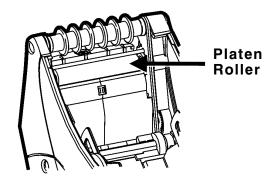
6. Reload the supply roll and close the supply cover.

Platen Roller

Clean the platen roller when you see significant adhesive build-up or a label is wrapped around the platen roller.

- 1. Turn the printer off and open the supply cover.
- 2. Remove the supplies. See "Removing Supplies" in Chapter 3.
- **3.** Hold the printer upright and gently press down on the label deflector. It may be stiff.

4. Use a dry, soft-bristle brush, such as a toothbrush, to clean either the standard (black) or linerless (red/orange textured) platen roller.



- 5. Turn the platen roller with your finger, and then continue cleaning.
- **6.** Reload the supplies and close the label deflector and supply cover.

NOTE: DO NOT use alcohol or solvents on linerless (red/orange textured) platen rollers.

If the brush does not remove all the adhesive:

- use isopropyl alcohol ONLY on the standard (black) platen roller. Moisten a cotton swab with isopropyl alcohol and run the cotton swab across the platen roller. Turn the platen roller with your finger to make sure the platen roller is clean all the way around. After cleaning, feed several inches of supply through without printing to remove any remaining isopropyl alcohol.
- Call Service to clean the linerless (red/orange textured) platen roller.

Pinch and Feed Rollers

To clean the pinch and feed rollers:

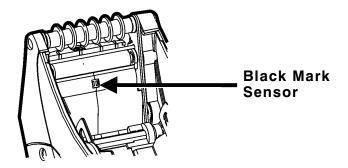
- 1. Turn the printer off and open the supply cover.
- 2. Remove the supplies. See "Removing Supplies" in Chapter 3.

- 3. Turn the platen roller with your fingers and run a dry, lint-free cloth across the pinch and feed rollers as they turn. Make sure the rollers are clean all the way around. If that does not work, use a cloth dampened slightly with distilled water.
- 4. Reload the supplies after the printer dries.

Black Mark Sensor

To clean the black mark sensor:

- 1. Turn the printer off and open the supply cover.
- 2. Remove the supplies. See "Removing Supplies" in Chapter 3.
- 3. Clean the black mark sensor with a dry cotton swab.



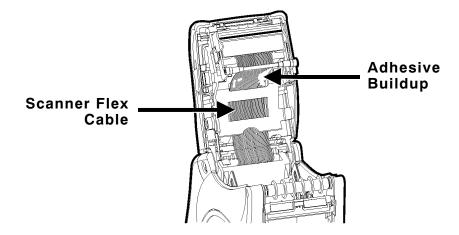
4. Reload the supplies and close the supply cover.

Scanner Window

Clean the scanner window whenever it appears to be dirty or smeared. To clean it:

- 1. Moisten a soft cloth with water.
- 2. Wipe the window until it is completely clean.

Scanner Flex Cable



Occasionally, adhesive buildup will appear on the scanner flex cable, as shown above. To clean the cable:

- 1. Turn the printer off and open the supply cover.
- 2. Inspect the scanner flex cable. At any place that adhesive buildup appears, clean the cable with 99% isopropyl alcohol.
- 3. Close the supply cover.

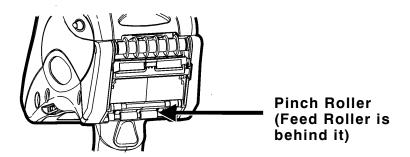
Clearing Supply Jams

To clear a supply jam:

- 1. Turn off the printer.
- 2. Open the supply cover completely.
- **3.** Open the label deflector by gently pressing down on it with two fingers.
- 4. Remove the supplies. See "Removing Supplies" in Chapter 3.
- 5. Carefully remove any jammed supply and close the deflector.

NOTE: Do Not pull the jammed supply out through the front of the label deflector. **Do Not** use sharp objects to remove jammed supplies.

6. Carefully remove any jammed supply between the pinch and feed rollers.



7. Reload the supplies and close the label deflector.

Storing the Printer

Do Not store the printer in or near

- magnetic fields
- wet or damp areas
- dirty or dusty areas
- areas of intense vibration or shock.

Following are some common printer problems and their solutions.

Problem	Solution		
Printer will not feed.	Switch to a fully-charged battery.		
	Close the supply cover completely.		
	Load the supply correctly.		
	Check the platen roller for jammed labels.		
Printer will not print.	Switch to a fully-charged battery.		
	Load the supply correctly.		
	Clean the printhead.		
Print has voids or is too light.	Load the supply correctly.		
	Close the supply cover completely.		
	Switch to a fully-charged battery.		
	Clean the printhead.		
	Check the supply for damage or defects.		
Printer partially prints on the supply and fails to respond to the keypad or trigger.	Load the supply correctly or load new suppli if necessary.		
	Clear any supply jams.		
	Clean the printhead.		
	Switch to a fully-charged battery.		
Scanner will not scan a bar Code.	See "Scanning Bar Codes" in Chapter 4.		
The display does not turn on.	Make sure the power is on.		
	Switch to a fully-charged battery.		
An error code and corresponding message appears on the display.	See your System Administrator.		

Error Codes

Following are some common error codes you may receive and their meanings.

Code(s)	Description
004 - 005	Supply size is incorrect. Reload the correct supplies.
267 – 271 410 – 413	Communication error. See your System Administrator.
703 – 704	Supply Error. Load supplies or make sure they are loaded correctly.
750	Printhead is overheated. Turn off the printer to let it cool.
751 – 753	The printer sensed a problem with a mark on the supplies. Check the supplies to see if they are loaded correctly.
756	The printer is out of supplies. Load supplies.
757	Load supplies. The calibrated supply length differs by plus or minus .25 inches from the format.
758	Supply error. Check for a label jam. Clear the supply path or reload supplies.
762	Low battery. Recharge the battery.
763	Waiting to dispense label. Press Enter.
768	Printhead error. See your System Administrator.
790 – 791	The printer is busy or has an error pending. Turn off the printer. Wait two seconds and turn it back on.
904 – 911	System error. See your System Administrator.
SYSTEM ERROR VECTOR ##	System error. See your System Administrator.

If these solutions do not work or you have a problem or error code not listed, see your System Administrator or call Service at the number listed on the back of this manual.

GLOSSARY



To use this printer, you should be familiar with the following terms.

Term	Definition		
Bar code	A sequence of vertical black and white bars. The spacing and thickness of these bars is a way of representing data. A scanner reads bar codes.		
Non-peel mode	The print mode that does not remove the backing paper. It is for labels printed in a continuous strip, tags, and receipt paper.		
Normal mode	The default data entry mode. In it, the user presses a key to access what appears on the face of the key. (except letters on the numeric keys).		
Peel mode	The print mode that removes the backing paper from the supplies as it prints the labels. This mode allows you to apply the label immediately. It is only for labels.		
Platen roller	The surface in the printer that the supply is held against. It rotates, helping to move the supply along.		
Printhead	The surface in the printer where the printing occurs. The supply moves across the printhead to get the label printed.		
Sensor	A device that "sees" that a new label has started. This is done with black marks on the back of the supplies.		
Shift mode	The print mode where the user presses the Shift key to		
	 enter a letter shown on the face of a numeric key. See "Entering Letters" for more information. 		
	 delete all data on the current line when pressed with Bksp. 		
Supplies	The paper (labels, tags, or receipt paper) printed on.		
Special key mode	The data entry mode after the user presses the Fct or Alt keys and then a number to access functions or display special characters.		

REFERENCE INFORMATION



Specifications

Dimensions: Width -7.75" (197mm)

Length - 3.25" (83mm) Height - 6.50" (165mm) Weight - 1.96 lbs. (.89 kg)

Shipping Weight – 5.62 lbs. (2.55 kg)

Printhead: 1.89" (48mm/384 dots) (203 dots per inch)

Printing: Thermal direct (no ink /ribbon)

Print Speed: 2" (51mm) per second

Memory: 1MB RAM and 2MB Flash

Battery Type: 7.4V Lithium Ion (110V – 240V AC adapter)

Battery Recharge

Time: 1-3 hours, depending on the charger used.

Supply Sizes: Width 1.2", 1.5", and 2.0" (30mm, 38mm, and 51mm)

Lengths .785" - 4.0" (20mm - 102mm)

Peel mode supports .785" (20mm) or greater lengths. Non-Peel mode supports .55" (13.97mm) or greater

lengths.

Operating

Temperature: $40^{\circ}F - 110^{\circ}F (4^{\circ}C - 43^{\circ}C)$

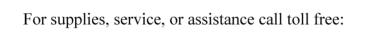
Humidity (Operating

& Storage): 5% - 90% non-condensing

Accessories/Options

- ♦ 9462 Single-Station Battery Charger
- ♦ 9464 4-Station Battery Charger
- ♦ AC Power Supply (110V 240V)—operating range is 95V 264V
- Integrated Laser Scanner (regular or high-speed)
- ♦ Documentation*
- ◆ Extra Battery
- ♦ Wrist Strap

^{*}Available on our Web site.



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